

Pre/Post Test Key for CDL Course

1. The following are mission statements for various public agencies. Which one is the mission of the National Park Service?
☐ to be leaders by showing people how not to waste natural resources and how to improve the environment
☐ to protect people's health and their environment by safely transporting radioactive waste and by opening and operating a place where the waste is deeply buried
☐ to care for the health, diversity and productivity of the public lands for people to use and enjoy today and in the future
☒ to conserve, undamaged, the natural and cultural resources and values of its special lands so people today and in the future may enjoy their visits and gain understanding and inspiration
☐ to achieve quality land management by allowing people to use public lands to meet their needs and at the same time not allow people to deplete the resources
2. How might a unit of the National Park System be created?
☐ an Act of Congress
☐ a Presidential Proclamation
☐ vote by The People
☒ either of the first two choices
☐ none of the above
3. True or False? TRUE
To be eligible for favorable consideration as a unit of the National Park System, an area must possess nationally significant natural, cultural or recreational resources; be a suitable and feasible addition to the system; and require direct National Park Service management instead of protection by some other governmental agency or by the private sector.
4. If the National Park Service had "extra" funds to spend at Carlsbad Caverns and if you were responsible for determining its use, which one of the following should you do?
☐ develop Lechuguilla Cave by adding electrical lights, paved trails and an elevator to make it accessible to the public
☐ establish a zoo for desert animals above the cave for educational purposes
☐ construct a hotel above the Cavern to accommodate visitors
☐ offer amusement rides to increase visitation
☒ use the funds for research and education for the protection of park resources
5. If you found an artifact while exploring a National park, what should you do?
☐ save the artifact forever
☐ sell the artifact to a museum

- ☒ leave the artifact and tell a ranger its location
 - ☐ throw it in the trash, if it were rusty and broken
 - ☐ take the artifact to rangers in order to keep others from stealing it
6. All the statements below are true and are reasons why Carlsbad Caverns is important. Which one has NOTHING to do with the reason why it qualifies to be a National Park?
- ☐ It contains a very large and famous cave
 - ☐ It contains the deepest limestone cave in the United States
 - ☐ It contains one of the few protected portions of the northern Chihuahuan Desert ecosystem
 - ☐ It has a famous colony of migratory Mexican free-tailed bats
 - ☒ It brings tourism, which stimulates New Mexico's economy
7. All proposed research projects at Carlsbad Caverns National Park or Guadalupe Mountains National Park _____.
- ☒ must be approved in advance by the National Park Service
 - ☐ must only be approved by a science teacher for competition
 - ☐ are limited to plant and animal studies
 - ☐ are limited to the study of rock formations
 - ☐ must be completed within 18 months
8. True or False? TRUE
One of the purposes of establishing Carlsbad Caverns National Park was to preserve and protect cave resources, the Chihuahuan Desert ecosystem, and the Guadalupe section of the Capitan Reef in Carlsbad Caverns National Park, as well as associated natural and cultural resources.
9. True or False? TRUE
One of the purposes of establishing Carlsbad Caverns National Park was to provide a range of opportunities for public use, enjoyment, and understanding, while minimizing impacts on park resources and natural processes.
10. True or False? TRUE
One of the purposes of establishing Carlsbad Caverns National was to facilitate research to provide a continuum of information in support of interpretation, management decisions, and the general body of scientific knowledge.
11. True or False? TRUE
Caves contain fragile environments that are affected by human activities and natural conditions both underground and on the surface.
12. True or False? TRUE
The condition of underground and surface resources, as revealed by continuing research in the park, can serve as an indicator of the overall environmental health of the region and the planet.

13. The National Park Service is responsible for managing more than _____ acres.
☐ 500,000
☐ 1 million
☐ 10 million
☐ 50 million
☒ 80 million
☐ 150 million
14. The National Park Service is an agency under the _____.
☐ United States Department of the Army
☐ United States Department of Agriculture
☒ United States Department of the Interior
☐ United States Bureau of Land Management
15. Part of the process of scientific inquiry is the ability to _____.
☒ explain and interpret the results of an investigation to others
☐ select the data that will support the stated hypothesis
☐ have no more than two variables in an experiment
☐ do research without an established baseline and without a control group
16. In terms of the scientific method, the purpose of an experiment is to _____.
☐ form an hypothesis
☒ test an hypothesis
☐ form a conclusion
☐ develop data
17. Most typically, the order in which the steps of the scientific method are applied is _____.
☒ observation, hypothesis, prediction, controlled testing, theory, verification
☐ observation, prediction, hypothesis, controlled testing, theory, verification
☐ prediction, observation, hypothesis, theory, controlled testing, verification
☐ observation, hypothesis, prediction, controlled testing, verification, theory
18. It's important to take complete field notes in a National Park because _____.
☐ if any item is omitted from the field notes, the notes will not be kept on file at the park
☐ they will become your primary source of information on the observations
☐ they may include information you don't need at present but might become valuable later
☒ second and third answers
☐ all of the above
19. Which of the following scientific processes should you use when you analyze a Chihuahuan Desert Lab project?
☐ limitation

- ☐ strengths
 - ☐ basic assumption
 - ☐ limitation and strengths
 - ☒ all of the above
20. The correct order of biological hierarchy from kingdom to species is _____.
☐ kingdom, class, family, order, phylum, genus, species
☐ kingdom, phylum, order, family, class, genus, species
☒ kingdom, phylum, class, ,order, family, genus, species
☐ kingdom, class, order, phylum, family, genus, species
21. The easiest place in the United States to view cave swallows may be _____.
☒ Carlsbad Cavern
☐ Slaughter Canyon Cave
☐ Spider Cave
☐ Lechuguilla Cave
☐ none of the above
22. Which is a possible reason for recent northward cave swallow expansion?
☐ humans changing the environment, opening up new habitats
☐ a regular expansion into new territory
☐ less competition from other species
☒ all of the above are possible reasons
☐ according to scientist Steve West, none of the above are probable
23. When cave swallows occur on the eastern coast of the United States during the fall, their appearance is probably due to _____.
☐ an increase in predators in the Caribbean Sea
☐ new food sources that occur in the fall
☒ dispersal caused by hurricanes
☐ movement from colonies in the American Southwest
☐ unusually mild temperatures
24. Which statement(s) is/are true?
(A) Of the approximately 1,900 known species of birds in North America, the cave swallow remains the only bird whose winter range is still unknown.
(B) The summer colony of cave swallows at Carlsbad Cavern is one of the largest and northern-most colonies of swallows in the United States.
☒ Both are true.
☐ Only the first statement is true.
☐ Only the second statement is true.
☐ Neither statement is true.
25. Which statement(s) is/are false?
(A) The cave swallow's nest, like that of the cliff swallow, is fully enclosed.

- (B) Scientists theorize that the bat population at Carlsbad Cavern has declined since 1966 due to the increase in the cave swallow population.
- ☒ Both are false.
☐ Both are true.
☐ Only the first statement is false.
☐ Only the second statement is false.
26. In the United States, cave swallows are found _____.
☐ throughout the country
☒ mainly in parts of Texas, New Mexico and Florida
☐ only as an accidental species following southern storms
☐ throughout the country where caves are located
☐ only in Carlsbad Caverns National Park
27. Christmas Count surveys are done _____.
☐ to survey threatened/endangered species of birds
☒ to monitor early winter bird populations
☐ to monitor nesting populations
☐ to survey numbers and varieties of game birds
☐ because limited foliage makes it is easier to observe bird behaviors
28. Two species that are similar in appearance (to us) are said to be _____.
☐ relatives
☐ genetically similar
☒ phenotypically similar
☐ distantly related and probably in a different genus
☐ not separate species, but different races of the same species
29. Collisions between cave swallows and bats are _____.
☐ usually fatal
☐ almost always harmful, if not fatal
☒ rare
☐ more damaging to the bats
☐ more damaging to the cave swallow
30. During the nesting season, adult cave swallows forage most actively _____.
☒ during early morning hours and late hours in the afternoon
☐ during early morning hours
☐ during late afternoon hours
☐ during early afternoon hours
☐ during late morning hours
31. GIS stands for _____.
☐ Global Information System
☐ Geological Information System
☒ Geographic Information System

- ☐ Global Information Service
32. GPS stands for _____.
- ☐ Geographic Public Services
- ☐ Geometric Problem Solving
- ☒ Global Positioning System
- ☐ Government Performance Standards
33. The components of GIS are _____.
- ☒ geography, data, a computer and a thinking operator
- ☐ geography, data and a computer
- ☐ textbooks, data and students
- ☐ global positioning system and a thinking operator
34. The virtue(s) of GIS is (are) _____.
- ☐ that human interaction is not needed
- ☒ speed of operations and flexibility of changing of scenarios and data
- ☐ all of the above
- ☐ none of the above
35. GPS is an array of _____ satellites.
- ☐ 4
- ☐ 8
- ☐ 16
- ☒ 24
36. GPS satellites orbit around the earth, launched and administered by the _____.
- ☐ NASA
- ☒ The Department of Defense
- ☐ The Department of the Interior
- ☐ The Department of Agriculture
37. GPS uses _____ to establish positional accuracy.
- ☐ radio signals
- ☐ lab top computers
- ☒ triangulation
- ☐ satellite
38. The minimum number of satellites needed to determine a location is _____.
- ☐ 1
- ☐ 2
- ☒ 4
- ☐ 6
39. SATLOC calculates _____.
- ☐ the speed of the satellite

- ☐ the time it takes to complete this test
 - ☒ the distance from the satellite to the GPS unit
 - ☐ the time it takes for a radio signal to go between satellites in space
40. Why is it important to review history and compare the past with the present?
- ☐ Historical comparisons allow us to determine if current land management practices are either helping or harming the land resource.
 - ☐ Comparing current livestock grazing units with past units allow us to assess economic and ecological consequences.
 - ☒ all of the above
 - ☐ none of the above
41. Why is it important to collect and preserve plant samples?
- ☐ Preserved plants and collection notes can be compared to current vegetation to determine if vegetation changes have occurred.
 - ☐ Preserved plants can be compared with current plants to determine if phenotypic changes have occurred.
 - ☐ The DNA of preserved plant leaves can be compared with the DNA in current plants to determine if genotypic changes have occurred.
 - ☒ the first two choices
 - ☐ the last two choices
42. How do we determine if a plant was introduced into North America from a different continent?
- ☐ Introduced plants look different than native plants.
 - ☐ Introduced plants are usually larger and require more water than native plants.
 - ☐ Introduced plants will die when planted with native plants.
 - ☐ all of the above
 - ☒ none of the above
43. Historically, state and Federal land managers often seeded introduced plants. Why did this trend change in the 1970s?
- It was recognized that introduced plants often replaced native plant populations.
44. What two species of prairie dogs are found in New Mexico?
- Black-tailed
Gunnison's
45. How much has the black-tailed prairie dog population declined since 1900?
- ☐ 25%
 - ☐ 67%
 - ☐ 10%
 - ☒ 98%

46. Before the recent reintroduction efforts, when was the last time prairie dogs were seen living in Guadalupe Mountains National Park and what happened to them?
- ☐ yesterday - nothing
 - ☐ 100 years ago - died of old age
 - ☐ 1940s - eaten by hawks
 - ☒ 1960s – poisoned
47. What role does the prairie dog play in the environment?
- ☐ provides food for other animals
 - ☐ provides shelter and habitat for other animals
 - ☐ improves the overall quality of a prairie ecosystem
 - ☒ all of the above
 - ☐ the first and second responses only
48. What is a habitat?
- ☐ the place where an organism lives
 - ☐ a place where animals go to find food
 - ☐ a unique place where organisms go to find mates
 - ☒ all of the above
49. What does the word ecology mean?
- ☐ a process through which an existing community is replaced by another
 - ☒ the study of the interactions of organisms with one another and their physical surroundings
 - ☐ an environment that has a characteristic climax community
 - ☐ the study of life
50. What does the term community mean?
- ☐ all the same kind (species) of organisms living in one specific area
 - ☒ all of the populations of organisms living in a given area
 - ☐ groups of organisms of the same species in a given area that can breed with one another
 - ☐ all are true
51. Approximately, how many vertebrate species depend on the prairie dog for survival?
- ☐ 9
 - ☐ 23
 - ☒ 170
 - ☐ 1800
52. The loss of this species, whose niche affects many other organisms in an ecosystem, will severely disrupt the ecosystem.
- ☐ primary species
 - ☒ keystone species
 - ☐ endangered species

☐ competitive species

53. True or False? TRUE

Prairie dogs are known to have the most sophisticated natural animal language so far decoded.

54. What is the purpose of data collection and sampling?

☐ provides information for analysis, hypothesis testing and report writing

☐ provides a hard-copy record of your work for historical purposes

☐ provides information for decision making

☒ all of the above

55. Which is an example of low impact camping?

☒ backpack, dehydrated foods and a light sleeping bag

☐ large tent, ice chest, 40 pounds of T-bones and cola, etc.

☐ RV, TV, CD, satellite dish, port-a-potty, etc.

☐ sleeping on a low cot instead of a high one so the impact is less if you fall out of bed while you are camping

56. Species alien to an ecosystem often out compete native species because the alien species _____.

☐ always have larger appetites

☐ cause primary succession to reverse

☐ are always parasitic

☒ may have few natural predators and diseases

57. Biologically diverse ecosystems tend to be stable because _____.

☐ they are found in all climates

☒ they have complex food webs that are hard to disrupt

☐ they all contain a wide variety of producers

☐ of symbiotic relationships within them

58. Competitive exclusion occurs when _____.

☒ a species is out-competed and dies out within an ecosystem

☐ a species migrates annually from an ecosystem

☐ species fail to reproduce

☐ a species occupies a realized niche

59. If you spill acid on your skin, the first thing you should do is _____.

☐ notify your teacher

☐ determine which acid was spilled

☒ rinse it off immediately

☐ replace the stopper in the acid bottle.

60. Which of the following enables seeds to germinate?

☐ exposure to temperature changes

- ☐ seed coat damage
- ☐ penetration of water and oxygen through the seed coat
- ☒ all of the above

Selecting from the following terms, fill in the blanks below:

calcium carbonate	downward flow	alkalinity	manufacturing
control	pure water	logarithmic	pH,
dissolved oxygen	drip rates	pH scale	water temperature
elemental nitrogen			

- 61. pH is a measure of the acid content of water.
- 62. PURE WATER is a poor conductor of electricity.
- 63. The pH is different from the concentration scale used for other impurities.
- 64. The pH scale is LOGARITHMIC.
- 65. MANUFACTURING requires impurity-free water.
- 66. ALKALINITY is the measure of a water's resistance to the lowering of pH when acids are added to the water.
- 67. Alkalinity is generated as water dissolves rocks containing CALCIUM CARBONATE, such as calcite and limestone.
- 68. Concentrations of nitrate should always be expressed as ELMENTAL NITROGEN.
- 69. Measures of DISSOLVED OXYGEN and pH directly indicate how hospitable a body of water is to aquatic life.
- 70. In Carlsbad Cavern, DRIP RATES are variable and essentially continuous; but are low, which are expected in arid ecosystems.
- 71. Rapid surface runoff, limited infiltration and thick layers of karstic rock, which causes great variability in DOWNWARD FLOW, characterizes the hydrologic system of Carlsbad Caverns National Park.
- 72. When developing a scientific study, a CONTROL or baseline must be chosen to compare with data collections over a specific time period.
- 73. WATER TEMPERATURE is largely determined by the amount of solar energy absorbed by the water and surrounding soils and air.

74. When testing water for dissolved oxygen and pH, which factor below is most important?
- ☐ turbidity
 - ☐ hardness
 - ☒ temperature
 - ☐ viscosity

True or False

75. True Water samples have a shelf life, meaning they are not reliable after a certain period of time.
76. True When calibrating a measuring instrument to assure it is functioning properly, a solution of known value is tested.
77. False Prairie dogs' auditory signals are seldom, if ever, accompanied by visual signals.
78. True Teeth chattering is observed when prairie dogs are grooming each other.
79. True Teeth chattering is observed when prairie dogs are sleeping.
80. True Prairie dogs kiss.
81. False Like many desert animals, prairie dogs are active at night.
82. True Prairie dogs eat plants and occasionally insects.
83. False At sunset, prairie dogs enter their burrows as couples.
84. False Prairie dogs do not waste any part of the plants they eat.
85. False The presence of humans seldom causes an alarm to be given.